

SPIXIANA	12	1	13–29	München, 30. Juli 1989	ISSN 0341–8391
----------	----	---	-------	------------------------	----------------

# On some new and rare crickets from northern and north-western Australia

(Insecta, Orthopteroidea, Gryllidae)\*

By Martin Baehr

Baehr, M. (1989): On some new and rare crickets from northern and north-western Australia (Insecta, Orthopteroidea, Gryllidae). – Spixiana 12/1: 13–29

A sample of crickets from northern and north-western Australia is communicated. Four species are newly described: *Apteroeryllus kimberleyanus*, spec. nov., *Napieria muta*, gen. nov., spec. nov., *Riatina pustulata*, spec. nov., and *Riatina rubrostriata*, spec. nov. For several species which were hitherto known from single or few specimens only, or from restricted areas, new locality records are given and in some species the ranges are considerably enlarged.

Dr. Martin Baehr, Zoologische Staatssammlung, Münchhausenstr. 21, D-8000 München 60, F. R. G.

## Introduction

During a travel through northern parts of the Northern Territory and north-western Australia, carried out in November–December 1984, I had the opportunity to collect about 40 species of crickets in this remote and zoologically very insufficiently known region. Fortunately, one year before, the comprehensive revision of the Australian crickets of D. Otte and R. D. Alexander (1983) appeared, based on enormous field work also in the Far North and North-west. It replaced the first attempt to deal comprehensively with the Australian crickets of Chopard (1951) who considered but very few species from far northern and north-western Australia. This was due to the almost absolute lack of information on the fauna of these remote and, then, almost inaccessible regions. Using the revision of Otte & Alexander (1983), most species collected by myself could be adequately determined. The bulk of the northern and north-western species, however, is still known from single or very few specimens. Therefore, additional records are desirable for evaluation of the ranges of several species. So it seems justified to give additional data for about 35 species from this area, as well as to describe some new species and a new genus. Evidently, as also Otte & Alexander (1983) stressed, the Australian cricket fauna is still unsatisfactorily known, due to the inaccessibility of wide areas of the North and North-west during wet season or due to lack of roads.

\* Supported by a travel grant of the Deutsche Forschungsgemeinschaft (DFG).

## Methods

The crickets mentioned in this paper were collected during the search for Ground Beetles (Carabidae) (see Baehr 1985, 1986) which was mainly done by lighting, collecting under bark of trees (mainly River Eucalypt), and exposing Barber traps near borders of pools and rivers. Hence, crickets were but a by-product of the collecting work. The number of specimens (and species), however, which came to the light, was surprisingly large. Altogether, about 600 specimens were caught, most of them at light, including large numbers of some well known species not explicitly mentioned further on. Several species were encountered under the loose bark of River Eucalypts, and single specimens jumped into Barber traps.

## Acknowledgements

Thanks are due to the authorities of the Deutsche Forschungsgemeinschaft (DFG) for supporting this paper by a travel grant.

## The species

Arrangement of the species follows the order of Otte & Alexander (1983). Apart from the subfamily name, no other supra-generic taxa are quoted. Some common and widely distributed species are not mentioned in detail: *Teleogryllus oceanicus* (Le Guillou), *Lepidogryllus parvulus* (Walker), *Lepidogryllus comparatus* (Walker), *Gryllotalpa monanka* Otte & Alexander, and *Gryllotalpa coarctata* Walker. All specimens, apart from holotypes and some paratypes which are located in the Western Australian Museum, Perth, in the collection of the Zoologische Staatssammlung München.

## Gryllinae

### *Gymnogryllus brevicauda* (Chopard)

An extremely northern species. — Western Australia: 1 ♀, Fitzroy Crossing, 19. XI. 1984.

### *Apterogryllus pedestris* (Walker)

Two juveniles belonging to the *palpatus*-group of Otte & Alexander (1983), but not showing the peculiar body contraction of *Apterogryllus palpatus* are attributed to *A. pedestris*. — Northern Territory: 2 iuv. ♂, West Alligator River, c. 60 km W. of Jabiru, 4. XI. 1984, in Barber trap on pool border in dry river bed. This record is well within the known range of *A. pedestris*.

### *Apterogryllus kimberleyanus*, spec. nov.

(figs 1–6)

Type Holotype. ♀, Western Australia, 26 km E. of Napier Downs, 24. XI. 1984, M. Baehr (Western Australian Museum).

Locus typicus. 26 km E. of Napier Downs, Kimberley Division, north-western Australia.

Diagnosis. Medium-sized species of the *brunnerianus*-group and the subgroup B of Otte & Alexander (1983), distinguished by size, colour, very short ovipositor, and 5 inner and 5 outer subapical spurs on tibia III.

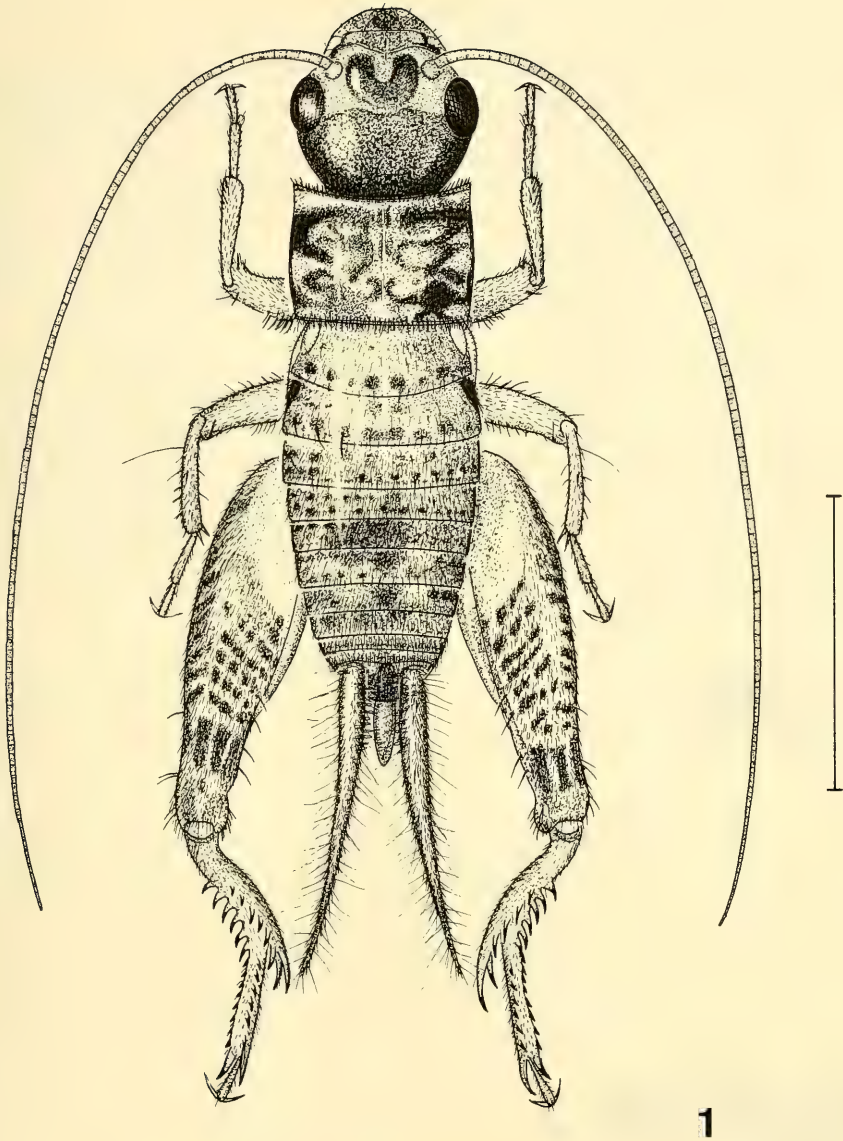


Fig. 1. *Apterogryllus kimberleyanus*, spec. nov. Habitus. Scale: 5 mm.

### Description

Measurements. Length: 13 mm; ratio with of head/width of pronotum: 1.02; ratio width of apex/width of base of pronotum: 1.1; femur III: 8.7 mm; tibia III: 5 mm; cercus: 7 mm; ovipositor: 2 mm; ratio length of ovipositor/length of pronotum: 0.7.

Colour. Head dorsally dark brown to black with 6 yellow stripes on occiput. Face and mouthparts yellow, also lateral parts beneath eye yellow. Frontal pattern as in fig. 2. Pronotum piceous to black with whitish pattern as in fig. 3, anterior and lateral borders largely white. Abdomen mottled piceous

and yellow. Legs yellow to greyish, femur III with several oblique bars externally and internally. Lower surface yellow.

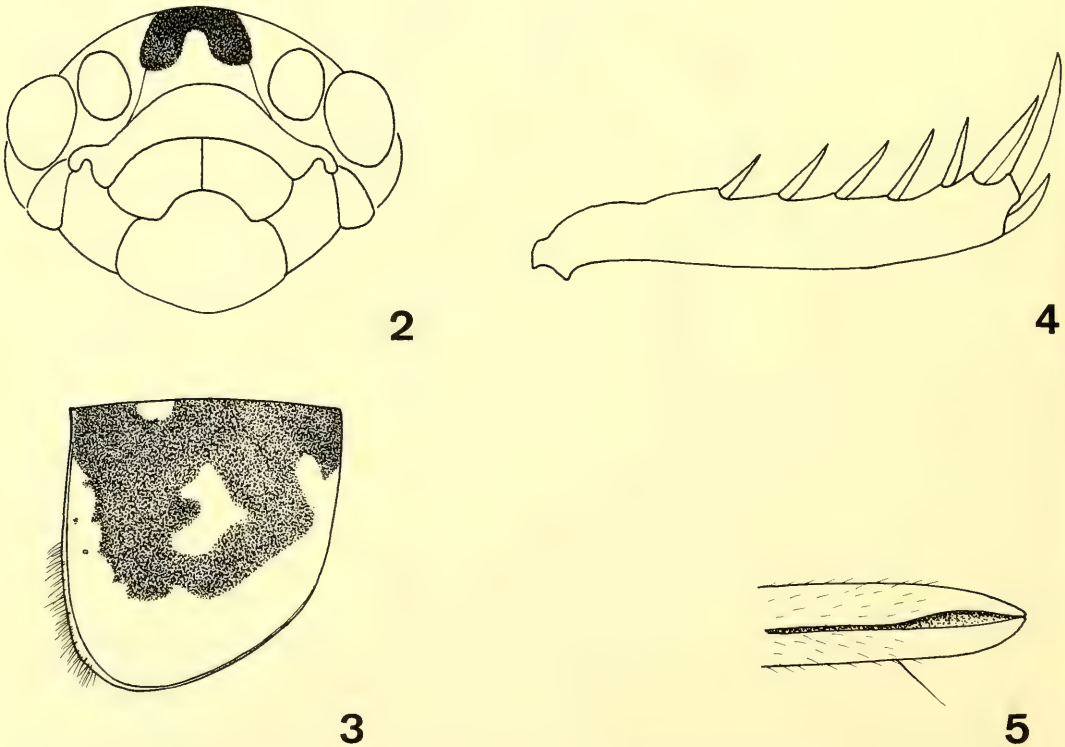
Head. Convex, not much wider than pronotum. Terminal segment of maxillary palpus much longer than of labial palpus, both rather slender, without dense bristles. Antenna surpassing tip of posterior legs. Pronotum at apex slightly wider than at base, c.  $1.5\times$  as wide as long in middle. Surface rather dull from dense microsculpture and pilosity. Posterior tibia with 5 subapical spurs on outer and inner surface, without additional short spines. Spurs slightly removed from basal constriction. Basitarsus externally with 8–9, internally with 6 short spines. Ovipositor short, straight, less than  $\frac{3}{4}$  of median length of pronotum. Apex as in fig. 5.

Distribution (fig. 6). Kimberley Division, north-western Australia.

Specimens examined: Only the ♀ holotype.

Habits. The single specimen was collected in a barber trap, exposed in dry open woodland near a largely dry creek. Perhaps this species lives in earth cracks. Known thus far from November.

Relationships. *Apterogryllus kimberleyanus*, spec. nov. belongs to the subgroup B of the *brunnerianus*-group sensu Otte & Alexander (1983) of *Apterogryllus* which is characterized by terminal segment of maxillary palpus longer than of labial palpus, small size, short ovipositor, and subapical spurs of tibia III removed from basal tibial constriction. All known species of this subgroup, however, occur in south-eastern Queensland, where they live mainly in subtropical rainforest. If the group assignment is right, *Apterogryllus kimberleyanus* has an outstanding distribution and is so far the single species of the *brunnerianus*-group to occur outside of eastern Queensland.



Figs 2–5. *Apterogryllus kimberleyanus*, spec. nov. 2. Frontal view of head. 3. Lateral view of pronotum. 4. Lateral view of tibia III. 5. Lateral view of apex of ♀ ovipositor.

It is to be stressed, however, that the distribution of this wingless genus and the real number of species is certainly very unsatisfactorily known, as the species live either in deep earth-cracks or burrows or on the rainforest floor, and do not come to light. Hence, they are normally caught only by digging out from their burrows or in Barber traps, methods not commonly used for collecting of crickets.

### **Comidogryllus adina Otte & Alexander**

Species mainly distributed over northern third of Australia. — Northern Territory: 1 ♂, Mary River, 120 km W. of Jabiru, 4. XI. 1984; Western Australia: 1 ♀, Ord River near Ivanhoe, 13. XI. 1984. Both specimens collected in Barber traps exposed on river banks. Both records within the known species range.

### **Comidogryllus ellerinus Otte & Alexander**

Species so far known only from Ashburton River in north-western Australia. — Western Australia: 1 ♂, Fortescue River 10 km W. of Millstream, 5. XII. 1984. Collected in the totally dry river bed between River Eucalypts. This record is evidence of a far wider range of this species in north-western Australia.

### **Birubia mediocris (Mjöberg)**

Known from few localities throughout northern Australia. — Altogether 35 ♂♂, ♀♀ from following localities: Northern Territory: Victoria River, 11 km W. of Timber Creek, 11. XI. 1984; Western Australia: Ord River near Ivanhoe, 12. XI. 1984; 8 km NE. of Wyndham, near coast, 13. XI. 1984; Fitzroy Crossing, 19. XI. 1984. Nearly all specimens flew to light in swampy areas near larger rivers or near the coast.

### **Birubia illalonga Otte & Alexander**

Recognition of this species in Otte & Alexander (1983) is somewhat confusing, because the figure of the lateral lobe of the pronotum does not match the description and the figure of the fore wing is inconsistent with description. Also ♂ genitalia of most species of this genus vary to a considerable degree. With regard to genitalia the single ♂ is similar to *B. illalonga*, but number of file teeth is considerably lower (91 compared with 103–127 given by Otte & Alexander). However, I tentatively rank the single specimen amongst *B. illalonga*. — Western Australia: 1 ♂, Hooley Creek, 68 km NW. of Wittenoom, 3. XII. 1984, at light in spinifex semidesert near dry creek bed.

### **Buangina bogabilla Otte & Alexander**

Species thus far known from the vicinity of Darwin, Northern Territory. — Northern Territory: 1 ♂, Fogg Dam, 5 km NE. of Coastal Plains Research Station, 5. XI. 1984. In Barber trap near shore of lagoon on black, muddy soil between logs.

### **Yarrita caribonga Otte & Alexander**

(fig. 7)

Known from a single ♂ from north-western Australia. — Altogether 23 specimens from following localities: Northern Territory: 17 km NE. of Willeroo on road Katherine-Kununurra, 8. XI. 1984; Victoria River, 11 km W. of Timber Creek, 10. XI. 1984; Western Australia: Ord River near Ivanhoe, 12. XI. 1984; Ord River, 105 km N. of



Fig. 6. *Apterogryllus kimberleyanus*, spec. nov. Distribution.

Fig. 7. *Yarrita caribonga* Otte & Alexander. Distribution. ▲: known locality.

Fig. 8. *Aritella fulviceps* (Mjöberg). Distribution. ▲: known localities.

Hall's Creek, 15. XI. 1984; Fitzroy Crossing, 18. XI. 1984; 2 km NW. of Windjana Gorge, 22. XI. 1984. All specimens at light in open woodland or near larger rivers in spinifex steppe. Apparently this species is widely distributed throughout the Kimberley Division in northern Western Australia and adjacent Northern Territory.

### *Aritella fulviceps* (Mjöberg)

(fig. 8)

In Western Australia so far only recorded from the Kimberley Division. — Western Australia: 2 ♀♀, 2 km NW. of Windjana Gorge, 22. XI. 1984; 1 ♂, 9 ♀♀, Hooley Creek, 68 km NW. of Wittenoom, 2. XII. 1984; 1 iuv., Mill-stream, at border of pool in the bed of Fortescue River, 5. XII. 1984. All adult specimens at light, the juvenile in Barber trap. These are the first records of an *Aritella* species of the *ilya*-group (sensu Otte & Alexander 1983) to occur south of great Sandy Desert.

## **Aritella cooma Otte & Alexander**

Widely distributed in northern and eastern Australia. Otte & Alexander (1983) quote specimens from near Millstream and Wittenoom, south of Great Sandy Desert as questionable. – Western Australia: 1 ♂, Hooley Creek, 68 km NW. of Wittenoom, 2. XII. 1984, at light. Specimen tentatively assigned to this species.

## **Aritella dumpalia Otte & Alexander**

Known from a single ♂ from Ashburton River in north-western Australia. – Western Australia: 2 ♀♀, Fortescue River, 10 km E. of Millstream, 3. XII. 1984. At light in the dry bed of Fortescue River. The ♀♀ are tentatively assigned to this species, as they do not match the description of any other species of this genus.

## **Nemobiinae**

### **Pteronemobius truncatus (Saussure)**

Distributed over most of northern and eastern Australia. – 10 specimens assigned to this species recorded from following localities: Northern Territory: Mary River, c. 120 km W. of Jabiru, 4. XI. 1984; Malabinbandju Billa-bong, 13 km S. of Jabiru, 2. XI. 1984; Magela Creek, 3 km N. of Mudginberry, 3. XI. 1984; Western Australia: Ord River near Ivanhoe, 11. XI. 1984; Frog Hollow Creek, 135 km N. of Hall's Creek, 14. XI. 1984; Hooley Creek, 68 km NW. of Wittenoom, 2. XII. 1984. At all localities at light.

### **Pteronemobius tarríos Otte & Alexander**

According to Otte & Alexander (1983) rather similar to *P. truncatus*, but with less extensive distribution and different song. I assign to this species 7 specimens all from the same locality which belong to the *truncatus-tarríos*-complex, but differ in size and shape from all *P. truncatus* I saw. – Northern Territory: 7 ♂♂, ♀♀, Magela Creek, 3 km N. of Mudginberry, 3. XI. 1984, at light.

### **Pteronemobius unicolor Chopard**

A common species in northern parts of Australia. – 32 specimens from following localities: Northern Territory: 1 km W. of Humpty Doo, 5. XI. 1984, in Barber trap; Fogg Dam, 5 km NW. of Coastal Plains Research Station, 5. XI. 1984, at light and in Barber trap; West Alligator River, c. 60 km W. of Jabiru, 4. XI. 1984, in Barber trap; 10 km W. of Roadside Inn, 75 km E. of Timber Creek, 10. XI. 1984, near border of cattle pool; Victoria River, 11 km W. of Timber Creek, 10. XI. 1984, at light; Western Australia: Frog Hollow Creek, 135 km N. of Hall's Creek, 14. XI. 1984, at light; 108 km WSW. of Hall's Creek, 16. XI. 1984, at light in spinifex steppe; Mary River, 115 km WSW. of Hall's Creek, 17. XI. 1984, at light; Fitzroy Crossing, 19. XI. 1984, at light; 2 km NW. of Windjana Gorge, 22. XI. 1984, at light. At most places this species occurred next to pools or rivers. In one locality, however, no wet place was within sight. Some Western Australian records enlarge the range of this species to the south, but it does apparently not occur south of the Great Sandy Desert.

### **Pteronemobius ornaticeps Chopard**

Northern and eastern species. – Northern Territory: 1 ♂, 1 km W. of Humpty Doo, 5. XI. 1984, in Barber trap near pool; Western Australia: 2 ♂♂, Ord River near Ivanhoe, 12. XI. 1984, at light; 1 ♀, Mary River, 115 km WSW. of Hall's Creek, 17. XI. 1984, at light. The last is the most interior record of this species.

## **Pteronemobius nundra** Otte & Alexander

Species distributed over most of northern and eastern Australia. — 35 specimens from following localities: Western Australia: 108 km WSW. of Hall's Creek, 16. XI. 1984; Fitzroy Crossing, 19. XI. 1984; 2 km NW. of Windjana Gorge, 22. XI. 1984; Hooley Creek, 68 km NW. of Wittenoom, 2. XII. 1984; Fortescue River, 10 km E. of Millstream, 4. XII. 1984; almost all at light.

## **Pteronemobius regulus** (Saussure)

So far known, a rather northern species. — 10 specimens from following localities: Northern Territory: 1 km W. of Humpty Doo, 5. XI. 1984; Fogg Dam, 5 km NW. of Coastal Plains Research Station, 5. XI. 1984; West Alligator River, c. 60 km W. of Jabiru, 4. XI. 1984; Western Australia: Fitzroy Crossing, 19. XI. 1984; 2 km NW. of Windjana Gorge, 22. XI. 1984. At Humpty Doo and West Alligator River on black, muddy soil near pools, all other specimens at light. The Western Australian records extend the range of this species to the inland.

## **Pteronemobius gagooris** Otte & Alexander

Thus far only scattered records of this newly described species available. — 11 specimens, all from Western Australia: Ord River near Ivanhoe, 11. XI. 1984; Ord River, 105 km N. of Hall's Creek, 15. XI. 1984; Fitzroy Crossing, 19. XI. 1984. Mostly at light, one specimen from Ivanhoe in Barber trap on the sandy bank of the Ord River. In north-western Australia this species is apparently rather widely distributed.

## **Trigoniinae**

### **Amusurgus angustus** (Chopard)

Northern Territory: 1 ♂, Mary River, c. 120 km W. of Jabiru, 1. XI. 1984, at light. Record well within known range.

### **Metiochodes australicus** Chopard

Western Australia: 1 ♂, Ord River near Ivanhoe, 11. XI. 1984, at light. Record well within known range.

### **Trigonidiomorpha sjöstedti** Chopard

Eastern species with few scattered records from northern and western Australia. — Western Australia: 1 ♂, 108 km WSW. of Hall's Creek, 16. XI. 1984, at light in spinifex steppe. So far most inland record of this species.

## **Pentacentrinae**

### **Pentacentrus velutinus** Chopard

Species with few scattered records in northern and northwestern Australia. — Northern Territory: 1 ♂, 17 km NE. of Willeroo on road Katherine-Kununurra, 8. XI. 1984, at light in open Savannah woodland.



## Eneopterinae

### Myara yabmanna Otte & Alexander

So far known from northern parts of the Northern Territory. A tree-living species. — Northern Territory: 1 ♂, 1 ♀, 1 iuv., 30 km N. of Adelaide River, 6. XI. 1984; 3 iuv., Mary River, c. 120 km W. of Jabiru, 1. XI. 1984, assigned to this species. All under bark of River Eucalypts.

### Napieria, gen. nov.

Genotype: *Napieria muta*, spec. nov.

Diagnosis. Genus belonging to subfamily Eneopterinae and tribe Eneopterini, however, distinguished from all Australian members of this tribe by lack of wings in both sexes and by lack of inner and outer tympanum. Further distinguished by cerci and antennae extremely elongate, rostrum more than twice as wide as scapus of antenna, and upper border of clypeus situated below antennal articulation.

### *Napieria muta*, spec. nov.

(figs 9–15)

Types Holotype: ♂, Western Australia, 26 km E. of Napier Downs, 23. XI. 1984, M. Baehr (Western Australian Museum). — Paratypes: 2 ♂♂, 13 ♀♀, same locality and date (Western Australian Museum, Zoologische Staatssammlung München).

Locus typicus: 26 km E. of Napier Downs, Kimberley Division, Western Australia.

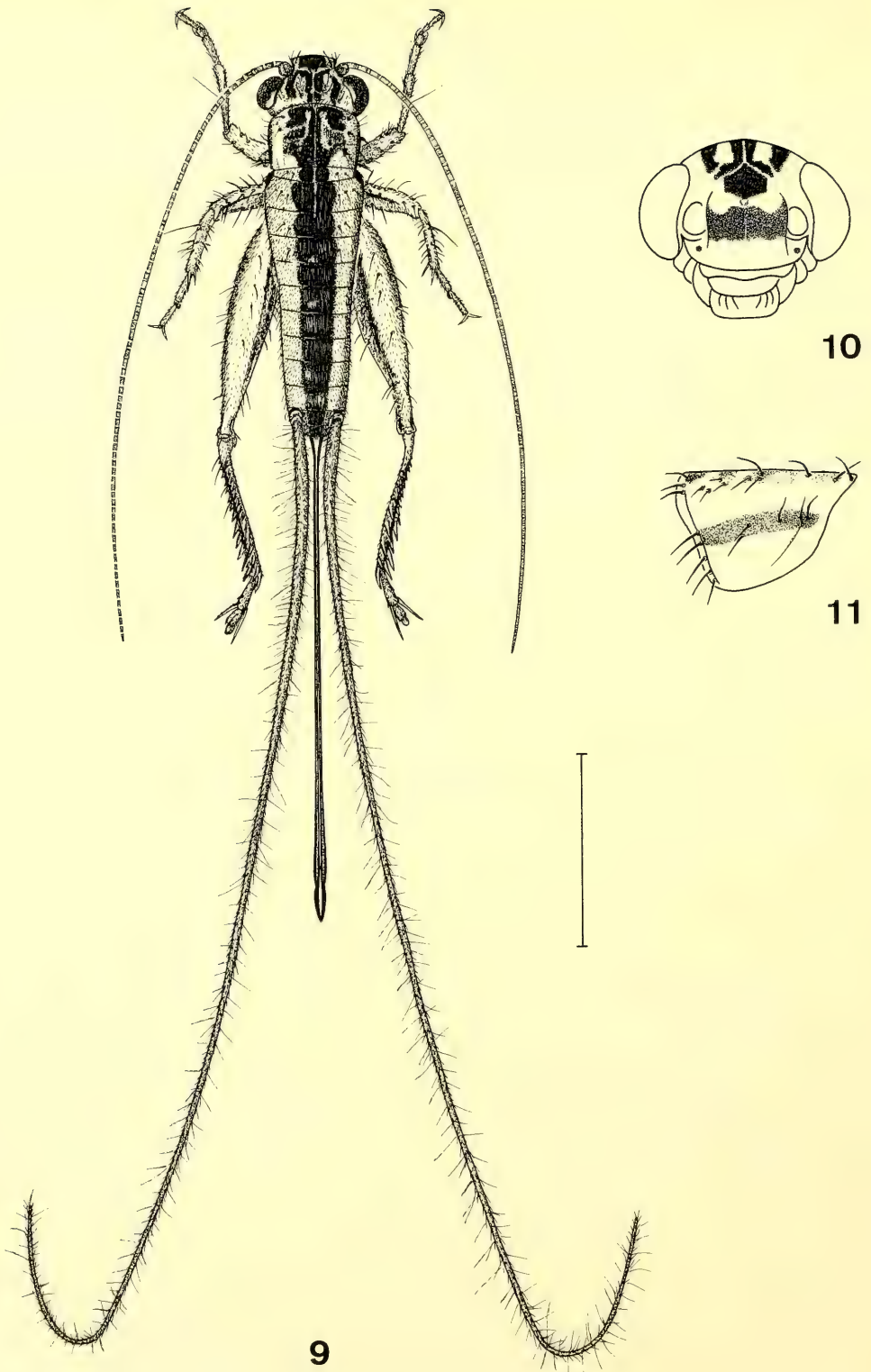
Diagnosis. With characters of genus. Medium sized, elongate species with dark median stripe from head down to apex of abdomen, on head divided to four stripes, on pronotum rather mottled. Antennae and also cerci very elongate, cerci more than 4× as long as femur III.

### Description

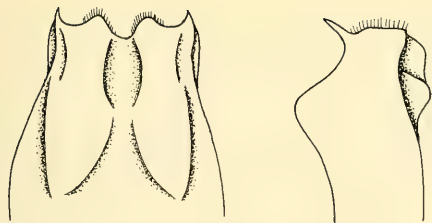
Measurements. Length: 7.8–9.5 mm; ratio width/length of pronotum: c. 1.32; length of femur III: 5.8–6.5 mm; length of ovipositor: 4–4.4 mm and 11.5–14.5 mm (see variation); length ratio ovipositor/femur III: 0.7–0.74 and 2–2.25 (see variation); length of antennae: 25–27 mm; length ratio antenna/femur III: 4.1–4.3; length of cerci: 25–26.5 mm; length ratio cercus/femur III: 4.1–4.25.

Colour. Ground colour dark yellow to even dirty whitish. Dorsal surface with a dark median band from head to apex of abdomen. On top of head band divided to four stripes, frons between eyes with transverse yellow band. On pronotum and basal abdominal tergites dark band medially with narrow white stripe. Medially on pronotum band disintegrated into a rather mottled pattern. Lateral border of pronotum and abdomen also with a narrow dark band. Ventral surface light. For pattern of head and of lateral lobes of pronotum see figs 9–11. Mouthparts largely light. Legs light greyish with scattered dark punctures, femur III dorsally with dark stripe and several white spots, inside with another dark stripe.

Body elongate, narrow, rather parallel. Rostrum of head almost 3× as wide as scapus of antenna. Dorsal border of clypeus well below antennal insertion. Eyes large, well protruding. Antennae very elongate, approximately 3× as long as body. Head much wider than pronotum. Pronotum square, wider than long, dorsally with several conspicuous black bristles. Abdomen elongate, densely pilose. 5th tergite of ♂ posteriorly with median furrow. Anterior and posterior wings in both sexes totally absent. Cerci very elongate, more than 4× as long as femur III and c. 3× as long as body. Tibia III with 4 outer and 4 inner subapical spurs. 2nd and 3rd spur more than 3× as long as 3rd.

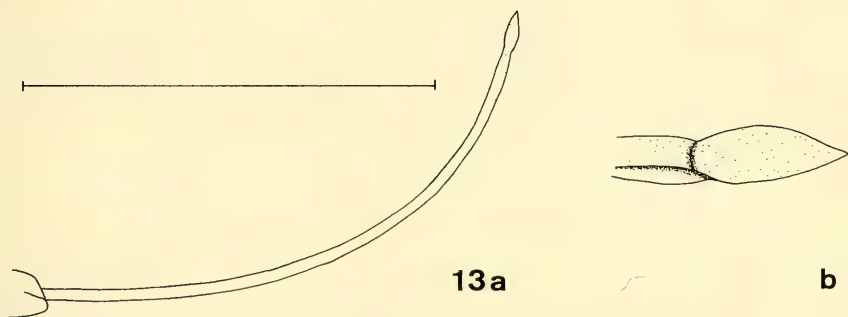


Figs 9–11. *Napieria muta*, gen. nov., spec. nov. 9. Habitus of ♀. Scale: 5 mm. 10. Frontal view of head. 11. Lateral view of pronotum.



12a

b



13a

b



14a

b

c

Figs 12–14. *Napieria muta*, gen. nov., spec. nov. 12. ♂ aedeagus. a. dorsal view; b. lateral view. 13. Lateral view of ♀ ovipositor (long form). a. total (Scale: 1 mm); b. apex. 14. Lateral view of ♀ ovipositor (short form). a. total (Scale: 1 mm); b. apex, lateral view; c. apex, ventral view.

♂ genitalia (fig. 12). Subgenital plate much longer than wide, apically convex.

♀ ovipositor either rather short and straight, c.  $\frac{3}{4}$  of length of femur III, or very elongate and rather curved. Then more than  $2\times$  as long as femur III. In the short form the ovipositor is absolutely straight, strongly microsculptured also to apex, and densely pilose. Apex is not incised near tip and not bordered (fig. 14 a, b). In the long form the ovipositor is microreticulate, but less so in apical third, and more and more smooth, the apex is glossy with scattered punctures. Ovipositor not pilose. Apex distinctly incised near tip, dorsally and ventrally bordered (fig. 13 a, b). As females with short and long ovipositors, respectively, do apparently not distinguish in size, pattern, nor in other respects, those with short ovipositors are also adults, the more as there are no specimens available with intermediate ovipositor.

Hence the question is, whether the strongly different ♀ ovipositors point to taxonomically different units, e. g. subspecies or even species, or whether they constitute merely different morphs of the same species. In the first case it is obscure, which type of female belongs to the males caught at the same locality. If the second supposition would prove true, this would mean a strong ecological segregation of

the two types of females. This question is solvable only by detailed biological observations of mating behavior and egg-deposition under natural conditions. Till this problem is unsolved, I prefer to manage with the denomination of two different types of females, rather than giving taxonomically relevant names to them.

Variation. Apart from the different ovipositor types little variation noted.

Distribution (fig. 15). So far known only from the type locality in north-western Australia.

Specimens examined (16): Only the type series which contains two ♂♂, three ♀♀ with long ovipositor, and 11 ♀♀ with short ovipositor (Western Australian Museum, Zoologische Staatssammlung München).

Habits. Collected at light in open tropical Savannah woodland with rather tall grass, thus far in November. Special habits actually unknown, perhaps on grass.

Relationships. In shape and colour pattern, as well as in several other respects, *Napieria muta* is close to certain species of the genus *Salmanites*. It differs, however, in the total loss of wings and tympana. ♂ genitalia are structurally similar to the ♂ genitalia of some *Salmanites* species, e. g. *S. alta* Otte & Alexander. Certainly, *Napieria* is closest related to genus *Salmanites*. The range of *Napieria muta*, however, is quite outside of the range of the whole genus *Salmanites*.

### **Madasumma jirrada Otte & Alexander**

Species from north-eastern Australia with few records from northern parts of Northern Territory. — Western Australia: 1 ♀, Ord River near Ivanhoe, 11. XI. 1984, is tentatively assigned to this species, as it matches well the short description of Otte & Alexander (1983) and differs from ♀♀ of *M. affinis* Chopard. Under bark of River Eucalypt.

### **Riatina frontalis (Walker)**

Distributed over the northern half of Australia, but few records from north-western and western Australia available. — Northern Territory: 3 ♂♂, 1 ♀, Victoria River, 11 km W. of Timber Creek, 11. XI. 1984; Western Australia: 1 ♂, Fitzroy Crossing, 18. XI. 1984, all under bark of River Eucalypt.



Fig. 15. *Napieria muta*, gen. nov., spec. nov. Distribution.

Fig. 16. *Riatina pilkena* Otte & Alexander. Distribution. ▲: Known locality.

## *Riatina pilkena* Otte & Alexander

(fig. 16)

Hitherto known from a single locality, Millstream near Fortescue River. — This species is, however, widely distributed in north-western Australia south of the Great Sandy Desert to at least the northern fringe of Hamersley Range. 18 specimens from following localities available: Western Australia: 1 ♀, De Grey River, 80 km NE. of Pt. Hedland, 27. XI. 1984; 2 ♂♂, 3 ♀♀, Bea Bea Creek, Chichester Range, 12 km S. of White Springs, 29. XI. 1984; 1 ♂, Vampire Gorge, Hamersley Range, 2. XII. 1984; 1 ♂, Wittenoom Gorge, Hamersley Range, 2. XII. 1984; 2 ♂♂, 6 ♀♀, Hooley Creek, 68 km NW. of Wittenoom, 2. XII. 1984; 1 ♂, Fortescue River, 10 km E. of Millstream, 3. XII. 1984; 1 ♀, Fortescue River Crossing, 137 km SW. of Roeburne, 6. XII. 1984. Most specimens collected from under bark of River Eucalypt, single specimens at light.

## *Riatina pustulata*, spec. nov.

(figs 17, 19, 21, 23, 25, 27)

Types Holotype: ♂, Northern Territory, 17 km NE. of Willeroo, 8. XI. 1984, at light, M. Baehr (Western Australian Museum). — Paratypes: 1 ♂, Northern Territory, 75 km E. of Timber Creek, 9. XI. 1984, M. Baehr; 1 ♂, Western Australia, Ord River, 105 km N. of Hall's Creek, 15. XI. 1984, M. Baehr; 1 ♀, Western Australia, 108 km WSW. of Hall's Creek, 16. XI. 1984, at light, M. Baehr (all Zoologische Staatssammlung München).

Locus typicus: Willeroo, north-western Northern Territory.

Diagnosis. Medium-sized species, characterized by small mirror, top of rostrum dark, frons with 6 pale spots and at least one tubercle below eye. In possession of that tubercle and in shape of ♂ genitalia close to *R. padiminka* Otte & Alexander, in frontal pattern similar to *R. nangkita* Otte & Alexander.

### Description

Measurements. Length of ♂: 18–20 mm; of ♀: 16 mm; length to apex of posterior wings in ♂: 23–25 mm; in ♀: 21.5 mm; femur III: 6.8–7.2 mm; tibia III: 5.5–5.7 mm; cercus in ♂: 12 mm; ovipositor in ♀: 6.9 mm.

Colour. Upper surface of body, antennae, and legs, yellowish. Head light brown, top of rostrum blackish, scape of antenna and first segments light brown. Frons reddish-brown to blackish, with 6 conspicuous white spots and a white stripe beneath eye. Clypeus, labrum, and mouthparts light reddish to yellow. Pronotum and lateral parts of head behind eye with an indistinctly lighter stripe. Lower surface yellow. Veins near base and on lateral field contrastingly dark, in rest of anterior wing reddish.

Head not much wider than pronotum. Eyes moderately protruding. Dorsal surface of head rather uneven. Tip of rostrum prominent, anteriorly roundish to slightly square, far surpassing interior border of antennal sockets. Frons wide and low, with a pair of tubercles beneath eyes and sometimes another pair of less well developed tubercles inside. Pronotum wide and depressed, not much widened to base or even almost parallel. Anterior wings elongate, mirror fairly small. Number of file teeth 188–196 (n = 2). ♂ genitalia (see fig. 25). ♀ ovipositor reaching end of posterior wings.

Variation: Apart from some differences of size little variation noted.

Distribution (fig. 27). North-western part of Northern Territory and adjacent north-western Australia.

Material examined (4): 3 ♂♂, 1 ♀ of type series.

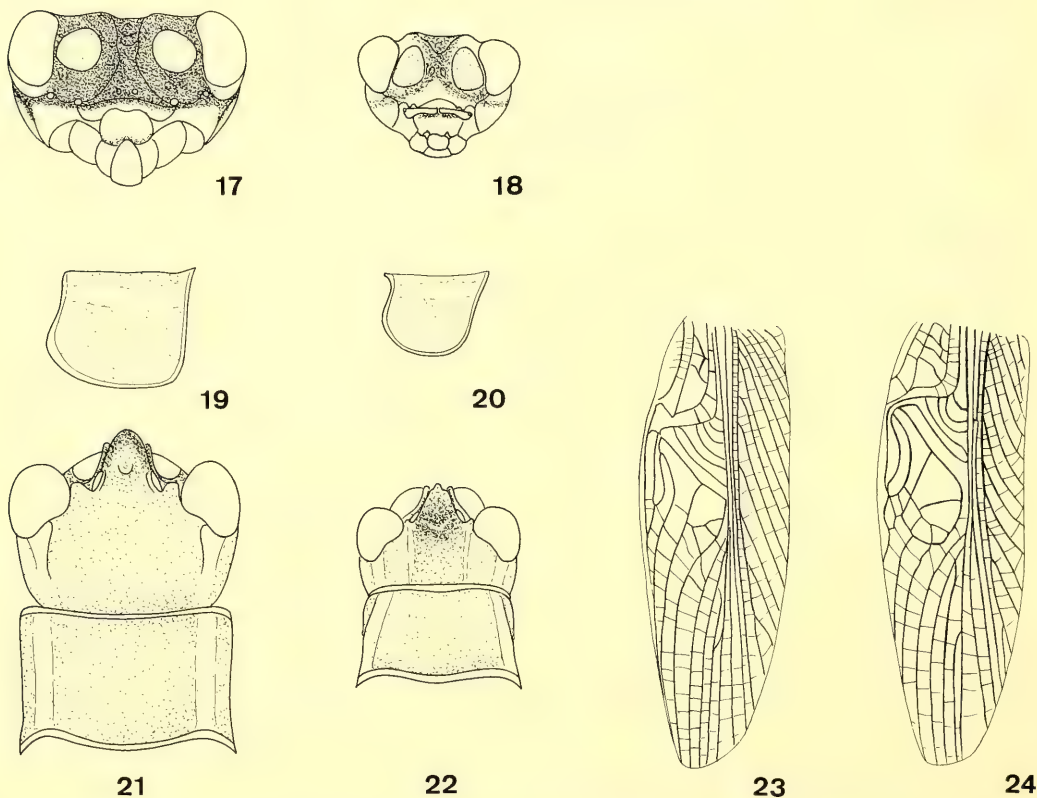
Habits. Two specimens collected at light, two under bark of River Eucalypt, in open dry woodland, Savannah woodland, or spinifex steppe with scattered eucalypts.

Relations. This species is rather intermediate in diagnostic characters between north-western *R. padiminka* and eastern *R. nangkita*. Facial colour and pattern is rather similar to *R. nangkita*, form of

rostrum, anterior wing and ♂ genitalia resemble those of *R. padiminka*. Apparently northern and north-western Australia is a main centre of the genus *Riatina* with several fairly similar species.

#### Recognition

In the key to genus *Riatina* (Otte & Alexander 1983, p. 325) *R. pustulata* would run under Nr. 4 and can be then recognized by distribution, number of file teeth, colour of femur III, and ♂ genitalia. When dorsal colour of rostrum is doubtful, the species would run with *R. padiminka* under Nr. 5, and can be distinguished by frons with six white spots.



- Figs 17 and 18. Frontal view of head. 17. *Riatina pustulata*, spec. nov.; 18. *Riatina rubrostriata*, spec. nov.  
 Figs 19 and 20. Lateral view of pronotum. 19. *Riatina pustulata*, spec. nov.; 20. *Riatina rubrostriata*, spec. nov.  
 Figs 21 and 22. Head and prothorax from above. 21. *Riatina pustulata*, spec. nov.; 22. *Riatina rubrostriata*, spec. nov.  
 Figs 23 and 24. Right anterior wing. 23. *Riatina pustulata*, spec. nov.; 24. *Riatina rubrostriata*, spec. nov.

#### *Riatina karalla* Otte & Alexander

Another north-western species, so far known from few localities in north-western Northern Territory and extreme northern Western Australia. — Western Australia: 1 ♂, 1 ♀, Ord River, 105 km N. of Hall's Creek, 15. XI. 1984, at light and under bark of River Eucalypt. This record enlarges the known range of the species to the south.

**Riatina rubrostriata, spec. nov.**

(figs 18, 20, 22, 24, 26, 28)

Types Holotype: ♂, Western Australia, Mary River, 115 km WSW. of Hall's Creek, 17. XI. 1984, at light, M. Baehr (Western Australian Museum). — Paratypes: 3 ♂♂, 1 ♀, same locality and date, at light and under bark of River eucalypt; 1 ♂, Western Australia, Fitzroy Crossing, 19. XI. 1984, at light, M. Baehr (All Zoologische Staatssammlung München).

Type locality: Mary River, Kimberley Division, Western Australia.

Diagnosis. Rather small, roseate species with narrow pronotum, medium sized mirror, and smooth, unspotted frons.

**Description.**

Measurements. Body length of ♂: 13–13.8 mm; of ♀: 16.5 mm; length to end of posterior wings in ♂: 18–19 mm; in ♀: 22 mm; femur III in ♂: 6.3–6.6 mm; in ♀: 8 mm; tibia III in ♂: 5.6–6 mm; in ♀: 7.2 mm; cerci of ♂: c. 9.5 mm; ♀ ovipositor: 5.4 mm.

Colour. Yellowish with a reddish tinge. Head anteriorly and at lateral borders roseate, also medially with two indistinct roseate stripes. Pronotum with distinct roseate lateral borders, colour on head prolonged to eyes. Frons yellowish-roseate, not much contrasting with clypeus, labrum and mouthparts, and without any white spots. Antennae and legs yellow. All veins on anterior wing reddish, not contrasting.

Head wider than pronotum, eyes rather protruding. Dorsal surface even. Rostrum narrow, strongly trigonal, but apex rather square, barely surpassing anterior border of antennal sockets. Frons wide, low, depressed, without tubercles. Pronotum considerably narrower than head, distinctly narrowed to apex. Anterior wings with medium sized to fairly large mirror which is normally divided in posterior part, and with 138–142 ( $n = 3$ ) file teeth. ♂ genitalia (see fig. 26). ♀ ovipositor not reaching end of posterior wings.

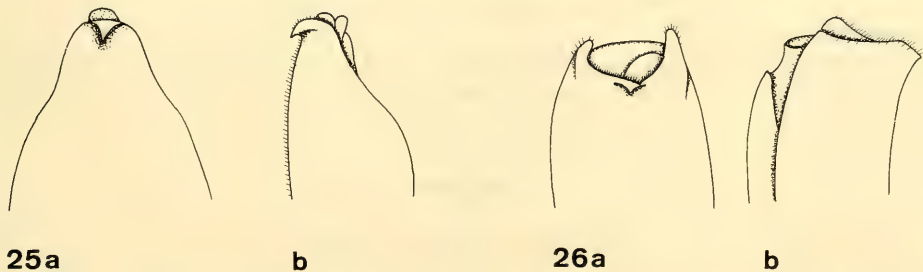
Variation. There is a ♂ from Mary River distinguished by extraordinarily narrow and convex pronotum and rather wide, posteriorly strongly convex head. In other respects, e. g. in structure of frons, ♂ genitalia, mirror, number of file teeth, it is similar to other specimens from the same locality. I suggest this is a deformed exemplar which should not given different taxonomic rank.

Distribution (fig. 28): Known from the southern fringe of the Kimberley Distribution in north-western Australia.

Material examined (6): 5 ♂♂, 1 ♀, of the type series.

Habits. Collected at light and from under bark of River Eucalypt near rivers in spinifex steppe.

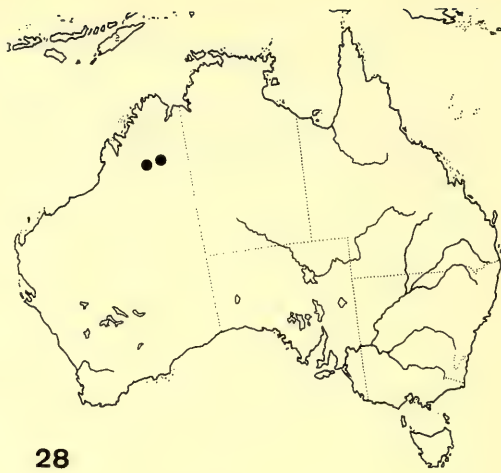
Relations. In several respects this species is rather close to *R. karalla* Otte & Alexander. It differs, however, in size, colour, relative height of frons, size of mirror, and in minor characters of ♂ genitalia.



Figs 25 and 26. ♂ genitalia. a. Dorsal view; b. Lateral view. 25. *Riatina pustulata*, spec. nov.; 26. *Riatina rubrostriata*, spec. nov.



27



28

Figs 27 and 28. Distribution. 27. *Riatina pustulata*, spec. nov.; 28. *Riatina rubrostriata*, spec. nov.

#### Recognition.

In the key to the genus *Riatina* (Otte & Alexander 1983, p. 325) *R. rubrostriata* would run under Nr. 9 and can be distinguished by relative height of face and rather large mirror.

#### **Mundeicus longifemur (Chopard)**

Species widely distributed over the northern half of Australia. — Western Australia: 1 ♂, Ord River near Ivanhoe, 11. XI. 1984; 1 ♂, 2 km NW. of Windjana Gorge, 22. XI. 1984, 1 ♂, 1 ♀, Hooley Creek, 68 km NW. of Witteboom, 2. XII. 1984, 1 ♂, Fortescue River, 3 km E. of Millstream, 4. XII. 1984. All at light.

#### **Mundeicus warringus Otte & Alexander**

Species with scattered distribution in interior and western Australia. — Western Australia: 1 ♂, 108 km WSW. of Hall's Creek, 16. XI. 1984, at light in spinifex steppe with scattered eucalypts.

#### **Mundeicus quinnia Otte & Alexander**

Known from few localities in eastern and one in western Australia. — Western Australia: 1 ♀, Joffre Falls, Hamersley Range, 1. XII. 1984, under bark of eucalypt in spinifex semidesert.

#### **Oecanthinae**

#### **Oecanthus rufescens Serville**

Common in eastern Australia and also known from far northern Australia and north-western Australia. — Northern Territory: 1 ♂, Darwin, Minjil Beach, 30. X. 1984, in tall grass.



## *Oecanthus angustus* Chopard

Widely distributed over most of northern and eastern Australia. — Northern Territory: 2 ♀♀, 30 km N. of Adelaide River, 5.XI.1984; Western Australia: 1 ♂, 2 ♀♀, Frog Hollow Creek, 135 km N. of Hall's Creek, 14. XI. 1984; 1 ♂, 1 ♀, Ord River, 105 km N. of Hall's Creek, 15. XI. 1984; 3 ♀♀, 108 km WSW. of Hall's Creek, 16. XI. 1984; 1 ♂, 1 ♀, Fitzroy Crossing, 19. XI. 1984, all specimens captured at light in tropical and dry woodland and spinifex steppe.

### References

- Baehr, M. 1985. Revision of the Australian Zuphiinae 4. The genus *Parazuphium* Jeannel (Insecta, Coleoptera, Carabidae). — *Spixiana* 8: 295–321
- 1986. Revision of the Australian Zuphiinae 5. The genus *Zuphium* Latreille (Insecta, Coleoptera, Carabidae). — *Spixiana* 9: 1–23
- Chopard, L. 1951. A revision of the Australian Grylloidea. — *Rec. South Austral. Mus.* 9: 397–533
- Otte, D. & R. D. Alexander 1983. The Australian crickets (Orthoptera: Gryllidae). — *Acad. nat. Sci. Philadelphia Monogr.* 22: 1–477